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HPAL AUTOCLAVE PERFORMANCE: A COMPREHENSIVE DESIGN EXPLORATION

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ABSTRACT

The extraction of nickel from lateritic ore bodies in horizontal HPAL autoclaves has evolved into a well-established and standard process. While the geometric design of these autoclaves has remained unchanged since the second generation in the 1990s, their size has substantially increased, with volumes doubling. From a process point of view the crucial role of effective mixing in the multiple compartments of HPAL autoclaves persists.

This paper explores the intricate relationship between autoclave geometry and agitator design in standard setups, utilizing cold flow test results obtained from a 400-liter model autoclave. The findings highlight the continued importance of optimizing mixing processes within autoclaves and provide insights into potential vessel design variations to optimize both Capex and Opex costs.

Keywords: HPAL, autoclave, nickel, agitator design